

In the Claims:

1-13. (Canceled)

14. (Previously Presented) A capacitor having a first electrode plate and a second electrode plate and a layer made of a dielectric formed between the first electrode plate and the second electrode plate, wherein the second electrode plate is formed from at least a layer made of ruthenium or ruthenium(IV) oxide and a layer made of polysilicon, wherein the capacitor is formed as a trench capacitor in a semiconductor substrate, in which the first electrode plate is formed as a doped section of the semiconductor substrate in a trench wall.

15. (Previously Presented) The capacitor of claim 14, wherein the first electrode plate is at least one of supplemented by a layer made of metal or made of an electrically highly conductive material arranged on doped sections.

16. (Previously Presented) A capacitor having a first electrode plate and a second electrode plate and a layer made of a dielectric formed between the first electrode plate and the second electrode plate, wherein at least a portion of one of the electrode plates is formed from ruthenium or ruthenium(IV) oxide, wherein the capacitor is formed as a trench capacitor in a semiconductor substrate, and wherein an insulation section is provided in an upper region of a trench wall adjoining an opening of the trench capacitor, wherein the first electrode plate is formed as a doped section of the semiconductor substrate in the trench wall and the second electrode plate is formed at least in part from ruthenium or ruthenium(IV) oxide.

17. (Previously Presented) The capacitor of claim 14, wherein the capacitor is formed as a trench capacitor in a semiconductor substrate and wherein an insulation section is provided in the upper region of a trench wall adjoining an opening of the trench capacitor.

18. (Previously Presented) The capacitor of claim 14, wherein at least one of the electrode plates is formed from ruthenium.

19. (Previously Presented) The capacitor of claim 14, wherein at least one of the electrode plates is formed from ruthenium(IV) oxide.

20. (Currently Amended) A The capacitor of claim 14 having a first electrode plate and a second electrode plate and a layer made of a dielectric formed between the first electrode plate and the second electrode plate, wherein the second electrode plate is formed from at least a layer made of ruthenium or ruthenium(IV) oxide and a layer made of polysilicon, the capacitor further comprising a barrier layer between the layer made of ruthenium or ruthenium(IV) oxide and the layer made of polysilicon.

21. (Canceled)

22. (Previously Presented) The capacitor of claim 16, further comprising a barrier layer disposed between the layer made of a dielectric and the second electrode plate.

23. (Previously Presented) The capacitor of claim 16, wherein the second electrode plate is further formed from a layer made of polysilicon.

24. (Previously Presented) The capacitor of claim 23, further comprising a first barrier disposed between the ruthenium or ruthenium(IV) oxide and the layer made of polysilicon.

25. (Previously Presented) The capacitor of claim 24, further comprising a second barrier layer disposed between the layer made of a dielectric and the second electrode plate.

26. (Previously Presented) The capacitor of claim 16, wherein the first electrode plate is at least one of supplemented by a layer made of metal or made of an electrically highly conductive material arranged on the doped sections.

27. (Previously Presented) The capacitor of claim 16, wherein at least one of the electrode plates is formed from ruthenium.

28. (Previously Presented) The capacitor of claim 16, wherein at least one of the electrode plates is formed from ruthenium(IV) oxide.

29. (Previously Presented) A capacitor comprising:
a first electrode that includes a first sidewall, a bottom surface and a second sidewall, the first sidewall, the bottom surface and the second sidewall forming an enclosure;
a dielectric layer overlying the first sidewall, the bottom surface and the second sidewall;
a metal layer overlying the dielectric layer and lining the first sidewall, the bottom surface and the second sidewall, the metal layer comprising ruthenium or ruthenium(IV) oxide;
and
at least one material overlying the metal layer and filling at least a portion of the enclosure, wherein the at least one material comprises polysilicon.

30-31. (Canceled)

32. (Previously Presented) The capacitor of claim 29, further comprising:
a first barrier layer between the dielectric layer and the metal layer; and
a second barrier layer between the metal layer and the conductive layer.

33. (Previously Presented) The capacitor of claim 29, wherein the first electrode comprises doped silicon.

34. (Previously Presented) The capacitor of claim 33, wherein the capacitor comprises a trench capacitor, wherein the doped silicon is formed along sidewalls of a trench formed in a silicon body, wherein the dielectric layer and the metal layer line the sidewalls of the trench, and wherein the at least one material comprises a conductive layer that fills at least a portion of the trench.